

**Notice of Allowability**

Application No.

10/801,340

Examiner

Steven Loke

Applicant(s)

BLAIS ET AL.

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to preliminary amendment filed on 3/15/04.
2. ☒ The allowed claim(s) is/are 32-77.
3. ☒ The drawings filed on 15 March 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

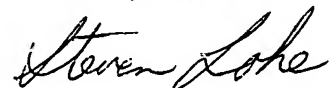
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 9/20/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

Steven Loke  
Primary Examiner



1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brett Lovejoy on 9/27/04.

The application has been amended as follows:

In the specification:

Replace the paragraph on page 1, beginning "Resonant Controlled Qubit System" with the following amended paragraph: --This application is a continuation of United States Patent Application serial number 10/419,024 filed on April 17, 2003, which claims priority to United States Patent Application serial number 60/374,261 filed April 20, 2002; United States Patent Application serial number 60/385,123 filed May 31, 2002; and United States Patent Application serial number 60/395,704 filed July 12, 2002 each of which is hereby incorporated by reference in its entirety.--.

In the claims:

Claim 51, line 2, after "and", insert --said--.

Claim 58, line 4, change "said coupling (A) and said coupling (B)" to --said coupling in step (A) and said coupling in step (B)--.

Claim 59, line 1, change "55" to --58--;

line 2, change "coupling (A) and said coupling (B)" to --said coupling in step (A) and said coupling in step (B)--.

Claim 60, line 1, change "55" to --58--;

line 2, change "said coupling (A) and said coupling (B)" to --said coupling in step (A) and said coupling in step (B)--.

Claim 61, line 4, change "said coupling (D) and said coupling (F)" to --said coupling in step (D) and said coupling in step (F)--.

Claim 62, line 2, change "said coupling (D) and said coupling (F)" to --said coupling in step (D) and said coupling in step (F)--.

Claim 63, line 2, change "said coupling (D) and said coupling (F)" to --said coupling in step (D) and said coupling in step (F)--.

Claim 67, line 1, after "coupling", insert --in step--.

Claim 70, line 2, after "coupling", insert --in step--;  
line 4, after "coupling", insert --in step--.

Claim 72, line 3, before "(F)", insert --in step--;  
line 5, before "(F)", insert --in step--.

Claim 74, line 2, after "and", insert --said--.

2. The following is an examiner's statement of reasons for allowance: The major difference in the claims not found in the prior art of record is a method comprising: tuning a resonant control system, which is capacitively or inductively coupled to said first qubit and said second qubit, to a first frequency for a first period of time, wherein said first frequency corresponds to an energy differential between a first potential energy level and a second potential energy level of said first qubit; and adjusting said

resonant control system to a second frequency for a second period of time, wherein said second frequency corresponds to an energy differential between a first potential energy level and a second potential energy level of said second qubit, thereby entangling the quantum state of the first qubit with the quantum state of the second qubit.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (571) 272-1657. The examiner can normally be reached on 7:50 am to 5:20 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

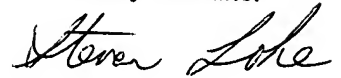
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September 29, 2004

Steven Loke  
Primary Examiner

A handwritten signature in cursive script, appearing to read "Steven Loke", written in black ink.